SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: SURFYNOL 104 E

Chemical name:
Acetylenic Diol

Other means of identification

Recommended restrictions

Recommended use: Industrial Use
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 299 Jefferson Road Parsippany, NJ 07054 USA
Telephone	:	+1 973 929 8000
Fax	:	+1 973 929 8042
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) +1 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Repeated Exposure (Oral)	Category 2[1.]

Target Organs

1. Kidney

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves. Use personal protective equipment as required. Wash hands thoroughly after handling.

Response: IF SWALLOWED: Call a POISON CENTRE/doctor/… if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
Acetylenic Diol

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Ethane-1,2-diol	107-21-1	50%
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	50%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: Surfactant
The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information:	Seek medical advice. If breathing is irregular or stopped, administer artificial respiration.
Inhalation:	Move to fresh air.
Skin Contact:	Wash off immediately with soap and plenty of water. Wash off immediately with plenty of water for at least 15 minutes. Wash with soap and water. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately.
Eye contact:	Rinse immediately with plenty of water for at least 15 minutes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.
Ingestion:	Prevent aspiration of vomit. Turn victim's head to the side. Never give anything by mouth to an unconscious person.
Personal Protection for First-aid Responders:	Use personal protective equipment., Wear self-contained breathing apparatus for firefighting if necessary.

Most important symptoms/effects, acute and delayed

Symptoms:	Up to now no symptoms are known.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Carbon Dioxide. Dry chemical. Dry sand. Limestone powder Alcohol resistant foam. Water spray.
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	Incomplete combustion may form carbon monoxide. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye/face protection.

Accidental release measures: If possible, stop flow of product.

Methods and material for containment and cleaning up: Place in appropriate chemical waste container. Call Emergency Response number for advice. Approach suspected leak areas with caution.

Environmental Precautions: Construct a dike to prevent spreading.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Safe handling advice: Use personal protective equipment.Wash hands at the end of each workshift and before eating, smoking or using the toilet.Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes.

Contact avoidance measures: No data available.

Hygiene measures: Provide readily accessible eye wash stations and safety showers.

Storage

Safe storage conditions: Keep containers tightly closed in a dry, cool and well-ventilated place.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Ethane-1,2-diol - Aerosol, inhalable.	STEL		10 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Ethane-1,2-diol - Vapor fraction	TWA	25 ppm		US. ACGIH Threshold Limit Values (03 2017)
	STEL	50 ppm		US. ACGIH Threshold Limit Values (03 2017)
Ethane-1,2-diol	Ceiling	50 ppm	125 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	50 ppm	125 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL		1.8 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	ST ESL		450 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	AN ESL		4.5 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	ST ESL		180 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
Ethane-1,2-diol - Vapor.	Ceiling	40 ppm	100 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (01 2015)

Appropriate Engineering Controls Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection:	Chemical resistant goggles must be worn.
Skin Protection	
Hand Protection:	Additional Information: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.Additional Information: Neoprene gloves, Nitrile rubber.
Skin and Body Protection:	No specific recommendations. Long sleeve shirts and trousers without cuffs.
Respiratory Protection:	Not required for properly ventilated areas. No personal respiratory protective equipment normally required.
Hygiene measures:	Provide readily accessible eye wash stations and safety showers.

9. Physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	light yellow
Odor:	Menthol.
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	> 199 °C
Flash Point:	> 110 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	< 1.3 hPa (21 °C)
Vapor density (air=1):	No data available.
Density:	1 g/cm3 (21 °C)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.
Other information	
Explosive properties:	No data available.
Oxidizing properties:	No data available.
Minimum ignition temperature:	No data available.
Metal Corrosion:	No data available.

10. Stability and reactivity

Reactivity: see section "Possibility of hazardous reactions"

Chemical Stability: Stable under normal conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: No data available.

Incompatible Materials: Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Dehydrating Agents. Oxidizing agents.

Hazardous Decomposition Products: Carbon Monoxide. Carbon Dioxide. Aldehydes. Flammable hydrocarbon fragments. Heating above 65 °C in the presence of strong base can liberate flammable hydrocarbon fragments. Carbon oxides

11. Toxicological information

Information on likely routes of exposure

Inhalation: Relevant route of exposure. Information on effects are given below.

Skin Contact: Relevant route of exposure. Information on effects are given below.

Eye contact: Relevant route of exposure. Information on effects are given below.

Ingestion: If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 1,000 - 2,000 mg/kg

Dermal
Product: LD 50 (Rat): > 2,000 mg/kg

Inhalation
Product: Vapour
LC 50 (Rat): > 20 mg/l
Irritating to respiratory system.

Repeated dose toxicity
Product: A similar material has caused mild liver toxicity . Repeated exposure increases liver weights in animals.

Skin Corrosion/Irritation

Product: No data available.
Mild Skin irritant Category 3 (UN-GHS)

Serious Eye Damage/Eye Irritation
Product: Severe eye irritation

Respiratory or Skin Sensitization
Product: Component of this product has been found to cause mild skin sensitization in a Local Lymph Node Assay (LLNA).

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data is available on the product itself.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.
LC 50 (Fathead minnow (Pimephales promelas)., 96 h): 81 mg/l

Aquatic Invertebrates

Product: No data available.
LC 50 (Daphnia (water flea), 48 h): 185 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data is available on the product itself.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: No data available.

Mobility in soil: No data available.

Components:

Ethane-1,2-diol	No data available.
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	No data available.

Other adverse effects: Do not allow to enter soil, waterways or waste water canal. The product is classified as slightly hazardous to waters (according to the German Regulation on the Classification of Substances Hazardous to Waters (WwSV).

13. Disposal considerations

Disposal methods: Contact supplier if guidance is required.

Contaminated Packaging: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. Transport information

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks	:	Not dangerous according to transport regulations., FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Ethane-1,2-diol	5000 lbs.
2-Pentanone, 4-methyl-	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute toxicity (any route of exposure), Serious eye damage or eye irritation, Respiratory or Skin Sensitization, Reproductive toxicity, Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users
Ethane-1,2-diol	Otherwise used (non-manufacturing/processing)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING: This product can expose you to chemicals including, 2-Pentanone, 4-methyl-, which is [are] known to the State of California to cause cancer and birth defects or other reproductive harm.

This product can expose you to chemicals including, Ethane-1,2-diol, which is [are] known to the State of California to cause birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Ethane-1,2-diol

US. Massachusetts RTK - Substance List

Chemical Identity
Ethane-1,2-diol

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Ethane-1,2-diol

US. Rhode Island RTK

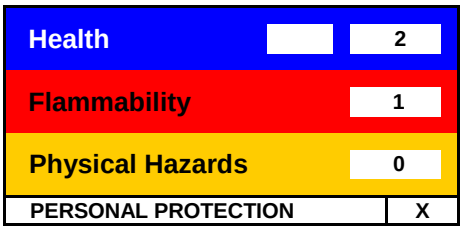
Chemical Identity
Ethane-1,2-diol

Inventory Status:

US TSCA Inventory:	Included on Inventory.
Canada DSL Inventory List:	Included on Inventory.

16.Other information, including date of preparation or last revision

HMIS Hazard ID



Ask supervisor or safety specialist for handling instructions

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

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Version #: 1.0

Further Information: No data available.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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